



DISASTER
PREPARATION FOR
HISTORIC PROPERTIES

Prepare-Protect-Preserve



CITY OF GALVESTON
DEPARTMENT OF PLANNING
AND COMMUNITY

2007

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All photographs courtesy of the Galveston County Historical Museum

Introduction


Galveston's vulnerability to disasters from hurricanes, fires, flooding, terrorism and other events places key historic resources, as well as the local economy at risk. The sooner Galveston recovers from the effects of a disaster, mitigates the damage, and rehabilitates its historic infrastructure, the more quickly its local economy can rebound. Previous disasters have highlighted the need for more effective pre-disaster planning and post-disaster recovery related to historic resources.

A lack of preparedness can lead to the inadvertent loss or increased damage to historic resources. Insufficient damage assessments, unsuitable debris management, inappropriate repair, and limited input from knowledgeable state and local preservation professionals can exacerbate a disaster event. Therefore, staff members of the Department of Planning and Community Development approached elected officials to begin the process to create a disaster response plan that specifically focused on historic properties.

On April 13, 2006, Mayor Lyda Ann Thomas created an ad hoc committee of ten citizens to work with City staff to develop the plan. The committee's stated purpose is to "assist the City with the development of a guiding document for disaster planning and recovery for historic properties on Galveston Island by focusing on the preparation, recovery and rebuilding efforts required in response to any significant natural disaster. Although the City has a framework and plan in place to respond to typical storm and natural disaster events, further discussion and planning is required for an event, which may endanger a large number of historic properties."

The Disaster Response Plan for Historic Properties Committee began meeting in May 2006. Over the course of a year, the committee organized three "Picture This!" events, which utilized volunteers to photo-document all historic resources east of 61st Street; developed *Prepare-Protect-Preserve: the Disaster Response Plan for Historic Properties in Galveston*; organized a public information forum regarding hurricane preparedness for historic properties; and created the following brochure to assist historic property owners in preparing for potential disaster events. This brochure was compiled utilizing numerous historic preservation resources to help all property owners PREPARE, PROTECT and PRESERVE the communities' historic properties.

Pre-Disaster Preparation

- Obtain Windstorm Exemption application from the Galveston Historical Foundation (GHF). Fill out and return to GHF with an attached photo of your property. The application will then be submitted to the Texas Historical Commission, and you shall receive written notification of eligibility within 60 days. Present the approved form to your insurance agent or carrier. Copies of the approved form are kept on file at the City of Galveston Department of Planning and Community Development and Galveston Historical Foundation.
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- Obtain and review City of Galveston Hurricane Preparedness materials.
 - Photograph/video property inside and out including any additional structures; retain a copy for yourself, store one copy off-island or with your insurance company or agent. List contents of home, garage and storage areas.
 - Add concealed hurricane straps and tie-downs to secure roof/roof and wall; roof shingles should be nailed, not stapled and have strip flashing. Tile roofs and eaves should be sealed with cement on an asphalt base .
 - Store temporary window protection (plywood or other recommended materials) if shutters are not a historical part of the home; check with local suppliers for new products which can be placed inside the windows as an added precaution .
 - Check chimneys, parapets, roof, flashing, porches for stability and necessary tie-downs; chimneys should be sealed shut at the cap and base; and wind turbines should be sealed as well.
 - Check building exterior—siding, trim, stucco, bricks should be secure, free of cracks and attached in good condition. Siding, window, door trim should be caulked; windows and doors bolted.
 - Store sandbags as protection for lower/ground floor in flood or high water events.
 - Identify supplies and hardware to protect exterior doors on the main house and any outbuildings.
 - Check fire detector batteries, systems.
 - Keep tree limbs trimmed away from the main house and any outbuildings.
 - Air-conditioning units and electrical should be at a raised level to avoid high water damage.

- Prevent flying objects and debris by moving outdoor furniture and equipment, garden accessories, trash containers, potted and hanging plants to an enclosed area or tie down in sheltered area; remove porch lights/fixtures, fans.
- Follow recommendations of local officials with regard to utilities (gas, electric, water) and disconnect all major appliances.
- Install window and door storm coverings (purchase or pull from storage).
- Bolt windows and doors (should be 1" slide).
- Remove interior furnishings from window areas; move to second floor, if available.
- Cover furnishings with plastic wraps or tarps, securing with tape.
- Objects on walls should be removed.
- Put sandbags in place.



Post-Disaster Recovery

Wind Damage

- Cover roofs with large tarps over ridge and fasten at corners.
- Use exterior grade plywood to patch sheathing and roofing felt for outer areas.
- Tie and wire gutters.
- Close damaged window and door openings with temporary covers, such as plastic or tarps, to secure against the elements.
- Have a structural engineer who is familiar with historic buildings inspect. They can help you determine what can be repaired and what should be replaced.
- Provide temporary bracing where necessary and check chimneys and parapets for damage.
- Salvage historic details and other building materials. Store for reuse.

Flood Damage

- Remove water, mud, and debris after ground water has subsided. Hose down walls and floors.
- Remove dirt, mold, fungus, and mildew from surfaces before they dry using gentle cleaning methods, then disinfect.
- With electricity turned off, open electrical outlets and mechanical areas, check wiring and heating and air-conditioning ducts.
- Sewage back-up requires thorough cleaning using protective gear.



- Ventilate with natural means by opening windows, doors, and vents. Use attic fans and window fans if the electrical system is safe.
- Plaster ceilings: Brace until dry, check for stability if sagging, use a nail on a stick in order to puncture drain holes at the edges. Use caution—the ceiling can loosen and fall.
- Plaster walls: For proper ventilation open wall cavities at top and bottom, remove any insulation for airflow, remove baseboards and crown moldings. Several inches above the floor, cut or drill ventilation openings at 12 to 18 inch intervals avoiding wiring. If retaining, you may need to anchor wall to studs and anchor ceiling joists with recommended type of screws and washers.
- Drywall/Sheetrock: Replacement is recommended for floodwater damage; for rainwater damage of less than two hours, salvage may be possible using the methods for plaster walls.
- Insulation: Begin in the attic and remove if saturated by water, pull out interior wall insulation by removing baseboards.
- Wallpaper: The extent of water damage will determine if removal is necessary. Save historic samples if it cannot be preserved.
- Carpet: Remove wet carpet and padding.
- Wood Floors: If coated with mud, wash with clean water. Use paper towels to soak up saltwater. Open airflow cavities and ventilate above and below until swelling and warping subsides and the floor settles (may take several months).
- Tile: With wooden sub-floors and grout, the floor should be inspected after all building materials are dry. This will mitigate damage if tile has to be removed and re-laid.
- Vinyl and Sheet Flooring: Remove to allow sub-floor to dry. Linoleum, if significant to the house, may be left in place to dry.
- Exterior Paint: May peel down to the original building materials; if so, allow to dry completely to avoid bubbling and peeling of new paint. Water-repellant wood preservation may be necessary if drying process postpones painting for extended period.
- Interior Paint: Start this process after all areas have dried, humidity is normal, and surfaces are safely prepared for new paint.
- Foundation: Masonry, stone foundations walls should be inspected for erosion, check brick masonry and concrete blocks for missing mortar. Cracks in walls or drywall may indicate soil erosion, wood expansion or problems with joists at foundation walls.
- Metals: Fasteners such as nails will rust (hammer in, caulk, use primer



paint, and topcoat) or joists may be sanded and painted. Copper, bronze, brass, and aluminum should be in good condition. Cast iron—sand and paint. Tin ceilings and cornices—will rust and should be closely inspected. For standing water, drain and ventilate—drill small holes which can be repaired and painted. Scrape rust from stamped metal, apply rust resistant primer and paint. Metal lintels which support concrete and masonry over doors and windows should be checked on a regular basis for rust and damage to surrounding materials.



- Porch: Remove skirting for ventilation.
- Landscaping: Remove safety hazards such as limbs and branches, straighten shrubs and small trees, and stake and wire as needed. Cover exposed roots on large trees. Call an arborist if the trees are uprooted for an assessment. Prune broken limbs.

Fire

- Cover damaged areas with tarps.
- Brace unstable section of the house or building.

Sources

- *Disaster Plan for Historic Properties in Minnesota—Disaster Planning for Historic Buildings*, State Historic Preservation Office, Minnesota Historical Society
- *1000 Friends of Florida, Pre and Post Disaster Planning for Historical Resources—Florida*; Florida Department of State, Bureau of Historic Preservation
- National Trust for Historic Preservation
- North Carolina Department of Cultural Resources—Office of Archives and history/State historic Preservation Office Restoration Branch



Resources

City of Galveston

www.cityofgalveston.org

City Emergency Operations Center 409-797-3710

Department of Planning
and Community Development 409-797-3660

Public Works Department 409-797-3630

Galveston County

www.gcoem.org

Emergency Operations Center 281-309-5002
888-384-2000

State of Texas

www.txdps.state.tx.us/dem

Governor's Division of
Emergency Management 512-424-2138 or
512-424-2000

Federal Government/Agencies

FEMA 800-621-3362
www.fema.gov

American Red Cross 866-438-4636
www.redcross.org

National Weather Service www.nws.noaa.gov

Media

Galveston county Daily News www.galvnews.com

Galveston.com www.galveston.com

Guidry News www.guidrynews.com

Historic Resources

Galveston Historical
Foundation

409-765-7834
www.galvestonhistory.org

Preservation Texas, Inc.

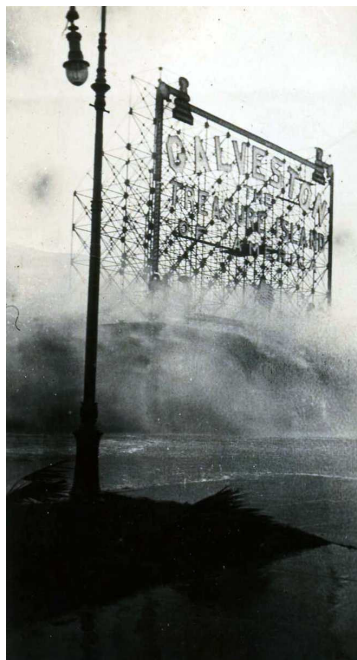
512-471-0102
www.preservationtexas.org

Texas Historical
Commission

512-463-3345
www.thc.state.tx.us

National Trust for
Historic Preservation

817-332-4398
www.nthp.org



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